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### I. Introduction

The Transportation Concept Report (TCR) is a long-range system planning document that establishes a planning concept for a state highway corridor through the year 2025, provides route data and information, as well as current (2002) and projected (for the years of 2010 and 2025) operating characteristics. Considering reasonable financial and physical constraints, the TCR defines the appropriate Route Concept level of service (LOS) and facility type(s) for each route. It also broadly identifies the nature and extent of improvements needed to attain the Concept LOS.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on state highway facilities, or whichever LOS is feasible to attain. For the purpose of this document, capacity-enhancing improvements such as lane additions are the primary focus for LOS attainment. However, operational improvements, such as intersection modifications and passing or weaving lanes, are discussed as interim measures. The TCR also identifies mass transit and the deployment of Intelligent Transportation Systems (ITS) actions as integral to route corridor development.

The Ultimate Transportation Corridor (UTC), as identified in this TCR, ensures that adequate right-of-way (ROW) is preserved for ultimate facility projects beyond 2025. However, the UTC does not consider funding as a constraint. Caltrans District 6 (which is comprised of the counties of Fresno, Kern, Kings, Madera, and Tulare), System Planning staff should be consulted for the interim ROW prior to ultimate construction for a specific location along the corridor.

A TCR identifies the initial and conceptual planning phase that leads to subsequent programming and the project development process. Consequently, the specific nature of proposed improvements, such as roadway width, number of lanes, and access control may change in later project development stages.

Final determinations are normally made during the project report and design phases. Therefore, a TCR is a "living document," subject to amendments as conditions change and projects are

completed. System Planning staff will update the TCR on a three-to-five year cycle or as needed. The TCR for State Route (SR) 198 was prepared and completed by the System Planning staff in cooperation with local and regional agencies and other Caltrans' functional units. As such, it will serve as a guide for cooperative planning and implementation of transportation and land use decisions.

### II. Route Description and Purpose

Route 198 is a 141-mile highway beginning at San Lucas in Monterey County and ends at the western boundary of the Sequoia National Park in Tulare County. This report covers the 115 miles of Route 198 from the Monterey County line through the counties of Fresno, Kings, and Tulare in Caltrans District 6, with a break in the route at SR 33. Route 198 serves the Cities of Coalinga, Lemoore, Hanford, and Visalia, including the mountain community of Three Rivers in eastern Tulare County.

At the beginning of this document (see Location Map, Exhibit 1, page "i") is a map showing the location of Route 198 within District 6 and the State of California.

Route 198 is classified as a Minor Arterial between the Monterey County line and Interstate 5 (I-5). It is a Principal Arterial between I-5 and the Sequoia National Park boundary. Under the Federal Aid programs, SR 198 from I-5 to the Lemoore Naval Air Station (LNAS) is recognized as a Strategic Highway Corridor Network (STRAHNET) route, and part of the National Highway System (NHS) from LNAS east to the end of the route. The remainder of the route is eligible under the Surface Transportation Program (STP).

The Surface Transportation Assistance Act (STAA) of 1982 designated SR 198 as part of the National Network (NN) for large trucks between I-5 and SR 99, with truck volumes ranging from 7 to 25 percent. SR 198 is also designated as a State Terminal Access Route from the beginning of SR 99 to the end of the route. SR 198 serves as an interregional corridor between the central coastal areas of California, the San Joaquin Valley, and the Sierra Nevada Mountains.

The route is designated by California as a High Emphasis (HE) Focus (F) Route of the Interregional Road System (IRRS) from I-5 to State Route 99. It is a High Emphasis Route from SR 99 to the Sequoia National Park boundary. Route 198 was formerly known as Route 10 and was added in parts to the State Highway System between 1909 and 1919. In 1959, the highway became part of the California Freeway and Expressway System, from I-5 to the Sequoia National Park boundary.

The SR 198 corridor is an essential highway that provides a vital east-west connection between the Sierra Nevada Mountains, the central coastal Region of California, and through the San Joaquin Valley. State Route 198 serves the commercial traffic along the corridor, which include the transportation of agricultural products. It is the primary highway to and from LNAS. LNAS is one of the Navy's essential aviation facilities in the western United States.

Within District 6, the route passes over mountainous terrain in Fresno County as it descends from the Coastal Ranges, and it terminates in Tulare County where the route ascends the Sierra Nevada Mountains. In the middle, the route passes through the San Joaquin Valley, which is mainly level terrain. State Route 198 provides recreational access to Kaweah Lake and Sequoia and Kings Canyon National Parks.

State Route 198 is primarily a 2-lane Conventional highway in Fresno County and within the eastern portion of Tulare County. In Kings County and the majority of Tulare County, the facility is mostly a 4-lane Expressway and a 4-lane Freeway. The Route is characterized by the following traffic attributes in Fresno, Kings, and Tulare counties: Annual Average Daily Traffic (AADT) for Route 198 ranges from a low of 1,300 AADT in Segment 1 (PM 0.0 - 21.2, KP 0.0 - 34.1) in Fresno County, to a high of 40,100 AADT in Segment 16 (PM R8.4 - R12.7, KP 13.5 - 20.4) in Tulare County.



*SR 198 is the primary highway to the Lemoore Naval Air Station, which is one of the United States Navy's essential aviation facilities in the west.*

### A. Geometrics, Land Use, and Environmental Considerations

#### **Segments 1- 4: Monterey County Line to the Fresno County Line (Fresno County)**



*Segments 1-3 in Fresno County (PM 0.0 -26.8) of SR 198 have been Officially Designated as Scenic because of the unspoiled native habitat that showcases the unique aspects of the landscape.*

State Route 198 traverses through Fresno County from the Monterey County boundary line with a break at Route 33 (PM 22.7, KP 36.5) in Coalinga and continues to the Kings County line. Within Fresno County, the major land uses include: oil fields, retail and service commercial establishments, residences, and rangeland. SR 198 is a 2-lane Conventional highway throughout Fresno County; the exception is a 4-lane Conventional section through Coalinga. The route crosses Warthan, Los Gatos and Coalinga Creeks, and the Coalinga Hot Springs canal in the mountains. The area surrounding the highway is considered highly sensitive for threatened or endangered species. The water crossings pose potential environmental considerations for riparian vegetation.



From State Route 33 (PM 22.7, KP 36.5) north of Coalinga to the Kings County line (PM 42.7, KP 68.7), the highway passes through a low range of hills between Coalinga and I-5 (PM 26.8, KP 43.1). There are oil fields near the I-5/SR 198 interchange, with agricultural lands bordering the west and east area of I-5. There are also traveler-oriented developments and a private landing strip at I-5.

### ***Segments 5 - 11: Fresno County Line to Tulare County Line (Kings County)***

State Route 198 traverses Kings County from the Fresno County line to the Tulare County line. From Fresno County to LNAS, the highway is a 2-lane Conventional highway. From LNAS eastward to the SR 41/198 interchange, the highway widens to a 4E/F (Expressway/Freeway). The highway crosses the Kings River (PM 5.7, KP 9.2) where riparian vegetation and threatened or endangered species are major considerations.

From SR 41 to west of 12<sup>th</sup> Avenue (PM R16.7, KP 26.9) and west of the city of Hanford, the route alternates between a 4-lane Expressway and Freeway. There are existing constraints to improving the route, including a housing development and the SR 41 interchange.

From 12<sup>th</sup> Avenue to 7<sup>th</sup> Avenue (PM 22.3, KP 35.9) SR 198 is a 4-lane Expressway passing through the City of Hanford. From 7<sup>th</sup> Avenue to the Tulare County line (PM 28.3, KP 45.5), the route is a 2-lane Conventional highway. The existing 2-lane highway will be constructed to a 4-lane Expressway with a new bridge crossing Cross Creek.



*From State Route 41 to west of 12<sup>th</sup> Avenue (PM R16.7, KP 26.9), and west of the city of Hanford, the route alternates between a 4-lane Expressway and Freeway.*

This project is presently programmed in the State Transportation Improvement Program (STIP) with the construction completion year of FY 2009. There are environmental considerations such as: noise impacts to the two schools in the area, hazardous waste, and threatened or endangered species near the Cross Creek area.



***From 7<sup>th</sup> Avenue to the Tulare County line, the existing 2-lane Conventional will be constructed to a 4-lane Expressway with a construction completion year of 2009.***

There are planned and programmed interchange projects to complete the Freeway within the Lemoore and Hanford areas. These projects include 9<sup>th</sup> Avenue (PM 19.9, KP 32.0), 12<sup>th</sup> Avenue (PM 16.4, KP 26.4), 16<sup>th</sup> Avenue (PM 12.7, KP 20.4), 18<sup>th</sup> Avenue (PM 8.6, KP 13.8) and 19<sup>th</sup> Avenue (PM R9.47, KP 15.2). The 19<sup>th</sup> Avenue Interchange is in the 1998 STIP and is expected to be completed in FY 2007.

### **Segments 12 - 26: Kings County Line to Sequoia National Park Boundary (Tulare County)**

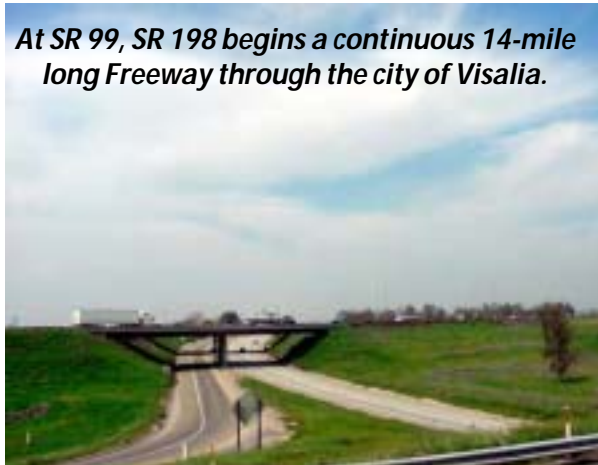
State Route 198 traverses through Tulare County from the Kings County boundary to its terminus at the Sequoia National Park boundary. From Kings County the route continues from Sequoia National Park boundary as a 2-lane Conventional highway to SR 99 (PM R3.3, KP 5.3) but this portion will be improved as a continuance of the 4-lane Expressway project indicated above.

At SR 99, SR 198 begins a continuous 14-mile long Freeway through the city of Visalia to the Outside Creek Bridge (PM R 16.6, KP 26.7). The final portion of the Expressway in Visalia was converted to a 4-lane Freeway (PM R4.9-R8.8, KP 7.9 - 14.2) in 2001.

The environmental issues concerning this stretch of highway are: traffic noise, water crossings, riparian vegetation, and aesthetics near existing residential development. From Outside Creek Bridge to SR 245 (PM R19.8, KP 31.9) the route crosses a rural landscape.

At this location, the route is presently a 4-lane Expressway. There are environmental considerations with the impacts at water crossings, as well as aesthetics.

**At SR 99, SR 198 begins a continuous 14-mile long Freeway through the city of Visalia.**



From SR 245 to the Sequoia National Park boundary (PM 44.2, KP 71.1) the highway traverses the level valley floor to rolling terrain in the Sierra Nevada Mountains. SR 198 is a 2-lane Conventional highway bordered by agriculture, rangeland, the communities of Lemon Cove and Three Rivers, and recreational lands of Lake Kaweah and Sequoia National Park.

Environmental constraints include existing development, the railroad line near the highway,

threatened or endangered species, and water crossings. Potential projects such as intersection improvements, passing lanes and other safety/operational improvements will be built, as applicable, to maintain highway performance.

### **Specific Environmental Considerations**

Listed below are potential specific biological resources (flora and fauna) in the SR198 corridor from the Monterey County boundary line to the Sequoia National Park in Tulare County. These resources include the San Joaquin Kit Fox, Swainson's Hawk, vernal pool fairy shrimp, Spiny sepaled button celery, Valley elderberry long-horn beetle, Cliff swallows, and California Tiger salamander.



*Swainson's Hawk is one of the listed State threatened or endangered species along various segments of SR 198.*

There are no identified historical resources.

### **B. Modal Alternatives and Intelligent Transportation Systems (ITS)**

The proposed High-Speed Rail corridor between Los Angeles and the Bay Area would cross the Route 198 right-of-way on a north to south alignment.

For the interregional travelers on SR 198, the existing transit services consist of Greyhound Lines and Orange Belt Stages. On the local or regional level, there are transit services such as Coalinga Transit, Kings Area Rural Transit, and Visalia City Coach. Transit along the SR 198 corridor also involves a combination of demand/response and fixed-route transit systems, including a fixed-route service to the Lemoore Naval Air Station, and between Hanford and Visalia.

There are existing bicycle lanes along SR 198 along the frontage roads in the city of Visalia and in the communities of Three Rivers and Coalinga. Operational and safety efficiency will be enhanced by deployment of ITS technology which may include, but not limited to: weather and pavement condition sensors, changeable

message signs, improved lane markers, and smart call boxes.

There are planned ITS projects on SR198. In Fresno County a Changeable Message Sign (CMS) is proposed at PM 21.7 and 28.93, KP 34.9 and 46.5. In Kings County there are plans for Closed Circuit Television (CCTV) at PM 20.9, KP 33.6 and a CMS at PM 21.5, KP 34.6. In Tulare County there are plans for a weather station at PM 1.51 and PM 18.81, KP 2.4 and 30.2. Other ITS plans are for a Highway Advisory Radio station (HAR) near SR 324 in Lemon Cove at PM 26.4, KP 42.5, and for CCTV at SR 99, near Plaza Drive at PM 5.50, KP 8.8, and near Akers Road at PM 6.8, KP 10.9.

### III. Concept Rationale

Route Concept LOS C was assigned to segments 1-12 and 17-20 because of the importance of this interregional corridor. Due to heavy traffic volumes and construction complexity, LOS D was assigned to segments 13 -16, 21 and 22.

LOS E was assigned to segments 23-26. Minimal improvements are feasible due to the rolling or mountainous nature of this portion of the highway. The Concept Facility objectives are to complete a 4-lane Freeway or Expressway system throughout the route extending from I-5 in Fresno County to SR 245 in Tulare County. Improvements on the rolling or mountainous segments will be to increase operational efficiency or to improve safety, i.e., passing lanes, intersection improvements, and shoulder widening.

### IV. State Route 198 Transportation Concept Report Summary Chart: an Overview of Operations, Deficiencies, Transportation Concept, and Ultimate Transportation Corridor

On pages 11, 12, and 13 (Exhibit 3 A, B, and C) of the Executive Summary is an 11" x 17" foldout Transportation Concept Summary Chart. The Summary Chart indicates Route 198 is divided into 26 distinct segments that provide descriptive and technical information, both current and forecast, for the State highway. The Summary Chart also has a linear geographic diagram that illustrates the major State and local highway facilities, along with key natural

The Summary Chart information is complemented by the Fact Sheets following immediately

after the Executive Summary. The Fact Sheets explain in greater detail selected information shown on the Summary Chart but also present other information such as functional classification, route designations, specific segment maps, and more.

### *A Review of Route 198 Performance: Current (2002) and Future (2010 and 2025)*

In Fresno County, the Route Concept Level of Service (LOS) for segments 1 - 4 is LOS C. The Route Concept LOS C for segments 1 - 3 will be met through 2025. There are several intersections in and near Coalinga, that will require future signalization to improve the LOS at these locations. Segment 4 is projected to perform at LOS D by 2025 and will not meet the Concept LOS. Upgrading segment 4 from a 2-lane Conventional highway to a 4-lane Expressway will improve the segment performance to LOS A.

In Kings County, the Concept LOS for segments 5 - 11 is LOS C. In 2002 and 2010, the Route Concept LOS C was met or surpassed for segments 5 through 10. The Concept LOS C was not met in 2002 for segment 11 (PM 22.3 - 8.3, KP 35.9 - 13.4), and in 2025 for segment 5 (0.0 - 3.0, KP 0.0 - 4.8).

Upgrading segment 5 and segment 11 from a 2-lane Conventional highway to a 4-lane Expressway will improve the performance of both segments to LOS A and LOS B respectively, by 2025. Segment 8 (PM R10.9-R16.4, KP 17.5-26.3) will be deficient as it is projected to perform at or below LOS D by 2025. In Hanford and Lemoore, segments 6 - 8 are being converted from a 4-lane Expressway to 4-lane Freeway. This is expected to be accomplished through possible interchange projects.

While this improvement will help to maintain or surpass the Concept LOS C for segments 6 and 7, it is not sufficient to maintain the Concept LOS C for segment 8 it will continue to perform at LOS D with improvements. In Tulare County, the Concept LOS is C for segments 12, 17 - 19, and 20. Segment 12 (PM 0.0 - R3.3, KP 0.0 - 5.3) was deficient (LOS D) in 2002 and will progressively become worse through 2025.

Upgrading segment 12 from a 2-lane Conventional highway to a 4-lane Expressway will improve the segment performance to LOS B. The Concept LOS is LOS D for segments 13 -16, and 21 - 22.

In Visalia, segments 14 (PM 4.9 - 7.0, KP 7.8 - 11.3), 15 (PM 7.0 - R8.4, KP 7.9 - 13.5) and about 0.35 mile of segment 16 (PM R8.4 - R12.6, KP 13.5 - 20.2) are 4-lane Freeways on an ultimate 6-lane ROW, with interchanges at Shirk Road, Akers Road, and Demaree Road. Nonetheless, segments 15 and 16 will continue to operate at LOS F through 2025. There are no plans for operation improvements in the future. The Route Concept LOS for segments 23 - 26 is LOS E.

Terrain constraints make capacity improvements unlikely in Fresno County from: 1) the Monterey County line (PM 0.0, KP 0.0) to the South Junction of SR 33 (PM 22.7, KP 36.5), and, 2) in the Tulare County foothills and Sierra Nevada Mountains, from 0.1 mile East of Road 244 (PM 26.9, KP 43.3) to Sequoia National Park boundary (PM 7.1, KP 11.4).

The 2-lane Conventional highway improved (2C(I)) Route Concept facility designation indicates that operational improvements and intelligent transportation system strategies should be deployed in these limits as means of sustaining and even improving the operating conditions.

The projected improvements to Route 198 will occur over a 25-year period of time. The Fresno, Kings, and Tulare Regional Improvement Program (RIP) and Caltrans' Interregional Improvement Program (IIP) funds will primarily fund these improvements. Other special funds for project improvements include the Governor's Traffic Congestion Relief Program (TCRP), which is administered by Caltrans and other locally administered funds.